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(56) Documents Cited
GB 2286331 A GB 2200034 A US 3334118 A

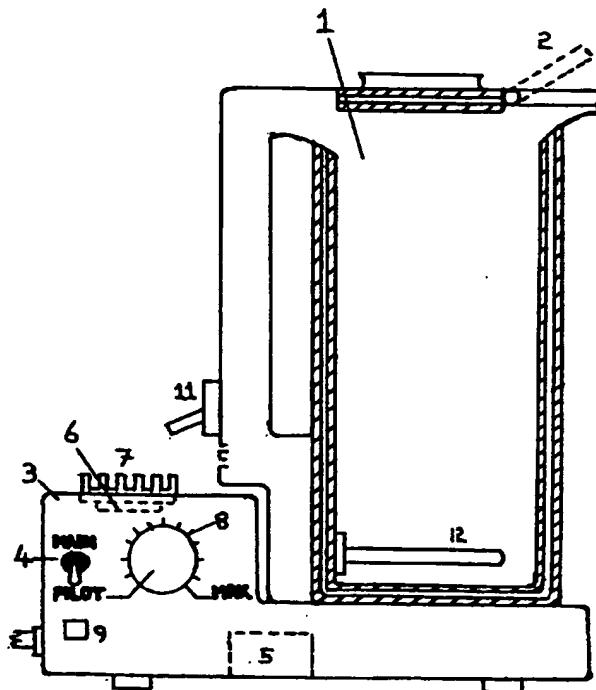
(58) Field of Search

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ONLINE:WPI

(54) Kettle with adjustable power consumption

(57) The power consumption of a kettle 1 may be adjusted by means of a rotary control 8. The kettle is cavity-walled, has a hinged flap 2 over its spout and is mounted on a base 3 containing electrical circuitry including the rotary control 8. When a switch 4 is in its "main" position, power consumption cannot be varied; in its "pilot" position, an indicator light 9 is on and control 8 is operable to select a boiling time by variation of the power supplied to the kettle.

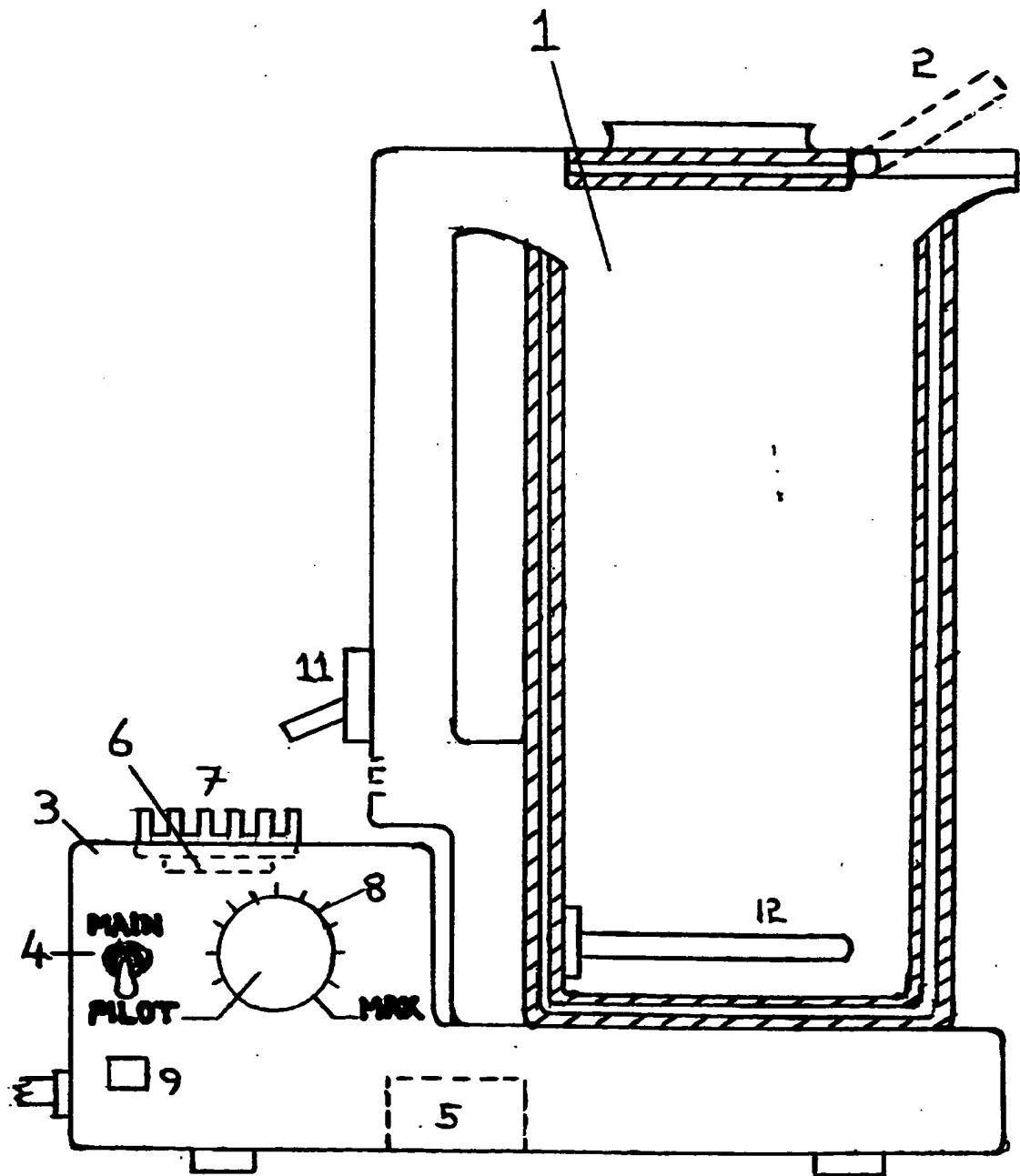
Fig. 1



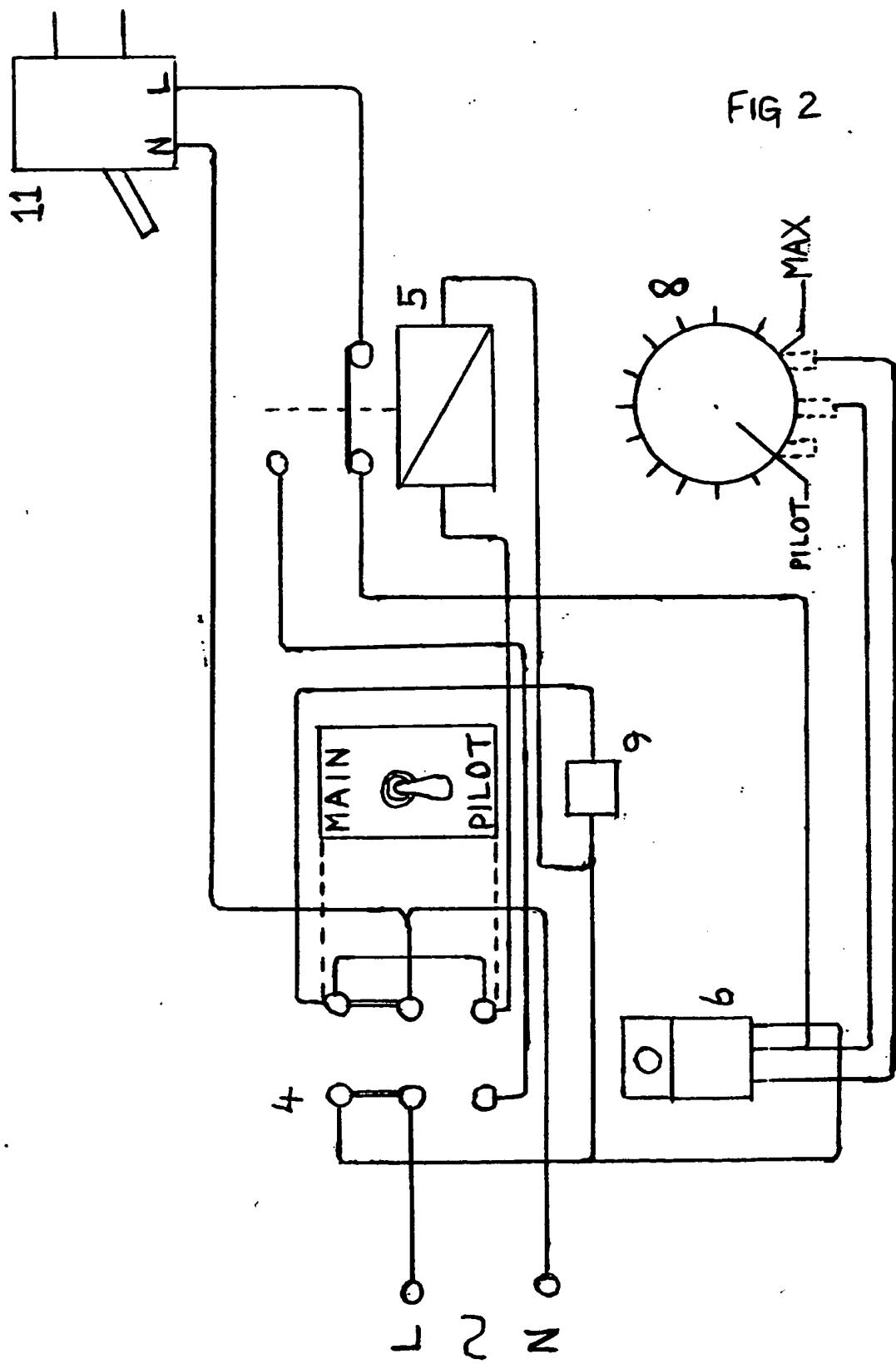
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FIG. 1



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PILOT KETTLE

THIS INVENTION REFERS TO A CAVITY WALLED KETTLE WITH ADJUSTABLE POWER CONSUMPTION.

KETTLES ARE WELL KNOWN DOMESTIC APPLIANCES WHICH ESSENTIALLY COMPROMISE OF A CONTAINER, THERMOSTATIC SWITCH AND A HEATING ELEMENT WHICH, VIA THE SAID THERMOSTATIC SWITCH, IS CONNECTED DIRECTLY TO THE MAINS SUPPLY.

KETTLES ARE, HOWEVER, RELATIVELY INEFFICIENT IN ECONOMICALLY HEATING THE WATER SINCE SPEED HAS ALWAYS BEEN ONE OF THE KEY FACTORS IN THEIR DESIGN.

ACCORDING TO THE PRESENT INVENTION THERE IS PROVIDED A SWITCH, WHICH, WHEN UNOPERATED ALLOWS THE KETTLE TO FUNCTION AS NORMAL, HEATING THE WATER AS FAST AS THE MAINS SUPPLY AND HEATING ELEMENT WILL ALLOW. WHEN THE SAID SWITCH IS OPERATED, A SECONDARY CIRCUIT IS BROUGHT INTO ACTION ENABLING THE USER TO ADJUST, VIA, A ROTARY CONTROL, BOTH THE POWER CONSUMPTION AND THEREFORE THE TIME TAKEN TO BRING THE CONTAINED WATER TO BOILING POINT.

THE PRESENT INVENTION HAS CAVITY WALLS AND LID COUPLED WITH A HINGED FLAP COVERING THE SPOUT TO INCREASE STEAM/VAPOUR FLOW TO THE THERMOSTATIC SWITCH AT LOW SETTINGS. A RED LIGHT IS PROVIDED TO INDICATE THAT THE SECONDARY CIRCUIT IS IN OPERATION.

A SPECIFIC EMBODIMENT OF THE INVENTION WILL NOW BE DESCRIBED BY WAY OF EXAMPLE WITH REFERENCE TO THE ACCOMPANYING DRAWINGS IN WHICH:-

FIGURE 1 SHOWS THE CAVITY WALLED KETTLE IN CROSS-SECTION, MOUNTED ON IT'S BASE.

FIGURE 2 SHOWS THE ELECTRONIC CIRCUITRY CONTAINED IN THE BASE.

REFERRING TO THE DRAWING (FIG.1) THE PILOT KETTLE CONSISTS OF A CAVITY WALLED CONTAINER 1 WITH A HINGED FLAP 2. THE CONTAINER MOUNTS ON A BASE 3 CONTAINING THE ELECTRONIC COMPONENTS.

THESE COMPONENTS CONSIST OF A SWITCH 4, A RELAY 5, A HEATSINK 7, AN INDICATOR 9 AND A POWER REGULATOR 6 WHICH IS ADJUSTED BY A ROTARY CONTROL 8.

IN ORDER TO USE THE SECONDARY CIRCUIT, THE SWITCH 4 IS SWITCHED FROM THE 'MAIN' POSITION TO THE 'PILOT' SETTING AND THE ROTARY CONTROL 8 IS ROTATED TO THE DESIRED TIME THE USER WISHES FOR THE KETTLE TO BOIL. THE ROTARY CONTROL 8 IS CALIBRATED FROM MAXIMUM IN MINUTE INTERVALS INITIALLY, THEN FIVE MINUTE INTERVALS RISING TO TEN MINUTE INTERVALS UPTO ONE HOUR. FURTHER CALIBRATION IS POSSIBLE DOWN TO THE 'PILOT' SETTING. AN OPTIMUM SETTING CAN BE CALIBRATED AND AT THIS SETTING, A SAVING IN EXCESS OF 10% CAN BE ACHIEVED OVER USING THE KETTLE AT FULL POWER.

REFERRING TO FIG.2, THE CIRCUIT CONSISTS OF A DOUBLE-POLE-DOUBLE-THROW SWITCH 4 THROUGH WHICH ONE OF THE TWO AVAILABLE CIRCUITS CAN BE SELECTED. IN THE 'MAIN' POSITION, THE KETTLE ELEMENT 12, VIA THE THERMOSTATIC SWITCH 11 AND THE NORMALLY CLOSED CONTACTS OF RELAY 5, IS CONNECTED DIRECTLY TO THE MAINS SUPPLY.

WHEN THE SWITCH 4 IS SET TO THE 'PILOT' SETTING, THE POWER REGULATOR 6 WITH ADJUSTABLE ROTARY CONTROL 8, A RED NEON LIGHT AND RELAY 5

BECOME OPERATIONAL FACILITATING THE ADJUSTMENT OF BOTH THE POWER CONSUMED AND THEREFORE THE TIME TAKEN BY THE HEATING ELEMENT 12 TO BOIL THE CONTAINED WATER.

SINCE THE NORMALLY CLOSED CONTACTS OF RELAY 5 CONNECT THE ELEMENT 12 VIA THE THERMOSTATIC SWITCH 11 AND D.P.D.T. SWITCH 4 TO THE MAINS SUPPLY, A FAILURE OF THE POWER REGULATOR 6, NEON LIGHT 9, ROTARY CONTROL 8 AND EVEN THE RELAY 5 TO OPERATE, THE KETTLE, IF SWITCHED BACK TO THE 'MAIN' SETTING ON THE D.P.D.T. SWITCH 4, WILL STILL ALLOW THE KETTLE TO FUNCTION AS NORMAL.

REFERRING TO FIG.1, THE KETTLE IS CAVITY WALLED SINCE THERMAL LOSS OVER, SAY, A ONE HOUR PERIOD IS CONSIDERABLE.

CLAIMS

- 1. A KETTLE WITH ADJUSTABLE POWER CONSUMPTION BY MEANS OF A ROTARY CONTROL.**
- 2. A KETTLE AS CLAIMED IN CLAIM 1 WITH CAVITY WALLS AND LID.**
- 3. A KETTLE AS CLAIMED IN CLAIMS 1 AND 2 WITH A HINGED FLAP COVERING THE SPOUT.**
- 4. A KETTLE SUBSTANTIALLY AS DESCRIBED HEREIN WITH REFERENCE TO FIGURES 1 AND 2 OF THE ACCOMPANYING DRAWINGS.**



The
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Office

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Claims searched: 1-4

Examiner: Stephen Smith
Date of search: 14 November 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

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Int Cl (Ed.6): A47J 27/21

Other: ONLINE:WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
Y	GB 2286331 A (MAYLAN) lines 11-26 of page 1 and lines 17-21 of page 2	2
Y	GB 2200034 A (MELLERWARE) lines 4-9 of page 3	3
X, Y	US 3934118 (JORGENSEN) line 55 of column 1 to line 7 of column 2, and line 6-7 of column 4	X: 1 Y: 2, 3

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.